

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-State  
Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: METALUX

Report Number: P391132

Luminaire Tested: **24CZ2-170VHE-HRP-UNV-L940-CD2-SWPD1-U**

Issue Date: 2/28/2020

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.

**Test Information**

Test Method: LM-79-08  
Report Number: P391132  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1808-918-19)  
Test Lab: INNOVATIONS CENTER(G3)  
Issue Date: 2/28/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: METALUX  
Catalog Number: 24CZ2-170VHE-HRP-UNV-L940-CD2-SWPD1-U  
Description: 2x4 CRUZE LED TROFFER WITH 4000K, 90 LEDS, AND HRP LENS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.    Condition    Description

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12188.7 lumens  
Efficiency: N/A  
Efficacy: 98.8 lumens/watt  
Spacing Criteria (0/90/45): 1.26 / 1.3 / 1.41  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

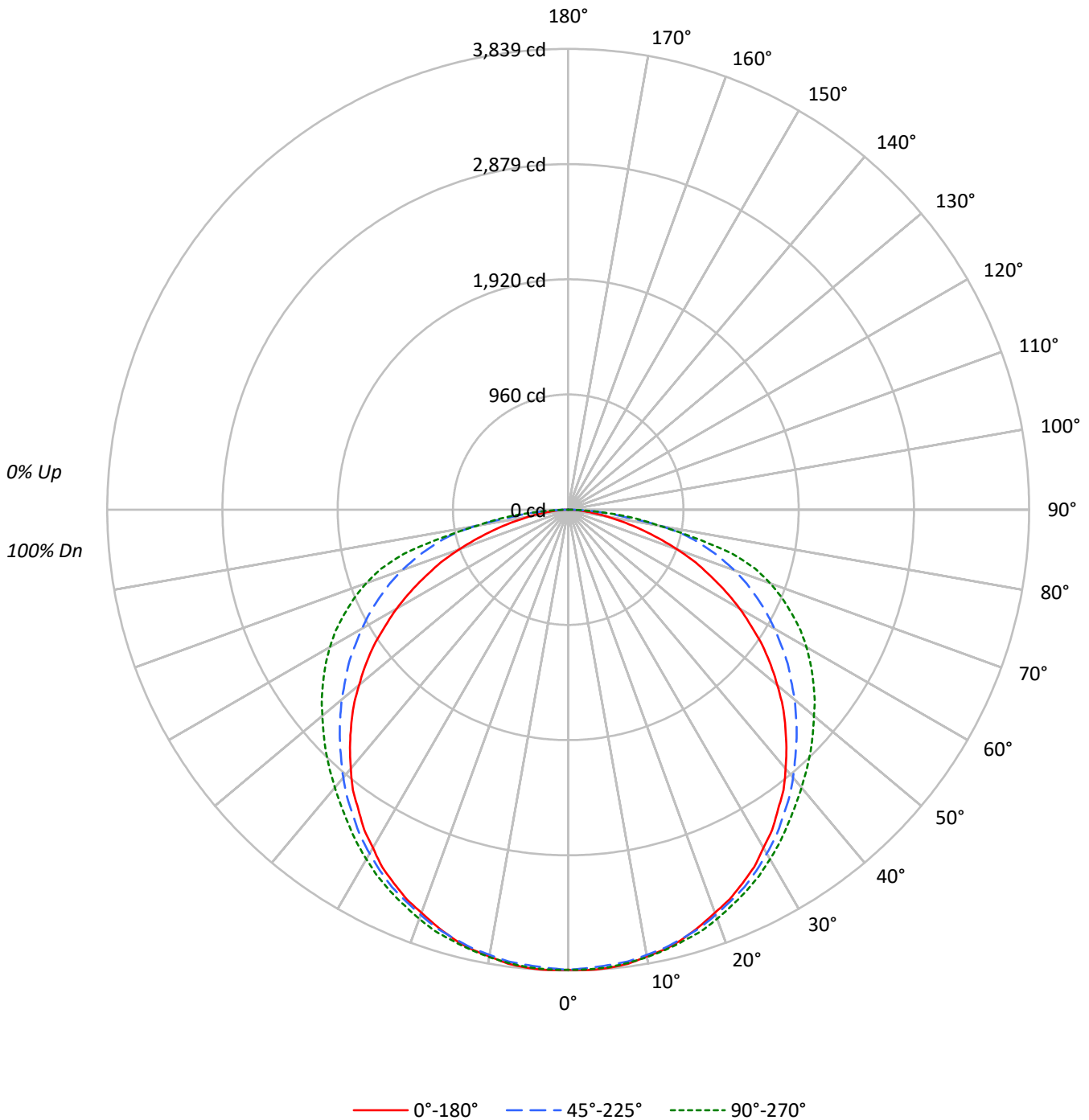
Input Watts (W): 123.4  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	108	103	98	94	105	100	96	92	96	93	89	92	89	87	88	86	84	82
2	97	89	81	75	95	87	80	74	83	77	72	80	75	71	77	73	69	67
3	88	77	68	62	86	76	67	61	72	66	60	70	64	59	67	62	58	56
4	81	68	59	52	78	67	58	51	64	57	51	62	55	50	59	54	49	47
5	74	60	51	44	72	59	51	44	57	49	43	55	48	43	53	47	42	40
6	68	54	45	38	66	53	45	38	51	44	38	50	43	37	48	42	37	35
7	63	49	40	34	61	48	40	34	47	39	33	45	38	33	44	38	33	31
8	59	45	36	30	57	44	36	30	43	35	30	41	34	29	40	34	29	27
9	55	41	33	27	53	40	32	27	39	32	27	38	31	26	37	31	26	24
10	51	38	30	24	50	37	29	24	36	29	24	35	29	24	34	28	24	22

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	5157	5157	5157
5°	5177	5144	5169
10°	5162	5146	5171
15°	5154	5145	5179
20°	5116	5142	5194
25°	5098	5152	5206
30°	5053	5138	5222
35°	5005	5124	5243
40°	4948	5118	5309
45°	4866	5119	5430
50°	4758	5151	5593
55°	4638	5233	5843
60°	4441	5336	6166
65°	4158	5524	6544
70°	3782	5779	7040
75°	3206	6097	7354
80°	2530	6137	5949
85°	1866	4667	5227



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	363.6	3.0
10°-20°	1046.4	8.6
20°-30°	1600.2	13.1
30°-40°	1956.2	16.0
40°-50°	2084.9	17.1
50°-60°	1993.5	16.4
60°-70°	1688.7	13.9
70°-80°	1135.0	9.3
80°-90°	320.2	2.6
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
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0°-30°	3010.2	24.7
0°-40°	4966.5	40.7
0°-60°	9044.9	74.2
0°-90°	12188.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12188.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3833	3833	3833	3833	3833	
5°	3833	3827	3809	3827	3827	364
15°	3700	3700	3694	3724	3718	1043
25°	3434	3446	3470	3500	3506	1583
35°	3047	3071	3120	3180	3192	1909
45°	2557	2600	2690	2805	2854	1972
55°	1977	2050	2231	2406	2491	1761
65°	1306	1439	1735	1965	2056	1296
75°	617	840	1173	1372	1415	660
85°	121	248	302	326	339	150
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3833.0	3833.0	3833.0	3833.0	3833.0
2.5°	3839.0	3839.0	3820.9	3833.0	3833.0
5°	3833.0	3827.0	3808.8	3827.0	3827.0
7.5°	3814.9	3808.8	3796.7	3814.9	3808.8
10°	3778.6	3778.6	3766.5	3784.6	3784.6
12.5°	3748.4	3742.3	3736.3	3760.4	3754.4
15°	3700.0	3700.0	3693.9	3724.2	3718.1
17.5°	3639.5	3645.6	3651.6	3675.8	3681.9
20°	3573.0	3585.1	3591.2	3627.4	3627.4
22.5°	3512.6	3518.6	3530.7	3567.0	3567.0
25°	3434.0	3446.1	3470.3	3500.5	3506.5
27.5°	3355.4	3361.4	3391.7	3434.0	3440.0
30°	3252.6	3270.7	3307.0	3355.4	3361.4
32.5°	3161.9	3180.1	3222.4	3270.7	3282.8
35°	3047.1	3071.2	3119.6	3180.1	3192.1
37.5°	2944.3	2962.4	3022.9	3089.4	3107.5
40°	2817.3	2853.6	2914.0	2992.6	3022.9
42.5°	2690.4	2726.6	2799.2	2902.0	2938.2
45°	2557.3	2599.7	2690.4	2805.2	2853.6
47.5°	2424.3	2472.7	2575.5	2708.5	2762.9
50°	2273.2	2333.7	2460.6	2611.8	2672.2
52.5°	2128.1	2200.6	2339.7	2509.0	2587.6
55°	1977.0	2049.5	2230.9	2406.2	2490.8
57.5°	1807.7	1904.4	2103.9	2303.4	2394.1
60°	1650.5	1741.2	1983.0	2200.6	2291.3
62.5°	1481.2	1602.1	1862.1	2091.8	2182.5
65°	1305.9	1438.9	1735.1	1964.9	2055.6
67.5°	1148.7	1293.8	1608.2	1837.9	1928.6
70°	961.3	1142.6	1469.1	1698.9	1789.5
72.5°	785.9	985.5	1324.0	1547.7	1632.3
75°	616.7	840.4	1172.9	1372.4	1414.7
77.5°	459.5	695.3	1015.7	1100.3	1070.1
80°	326.5	556.2	792.0	749.7	767.8
82.5°	211.6	423.2	489.7	556.2	574.3
85°	120.9	247.9	302.3	326.5	338.6
87.5°	54.4	90.7	120.9	120.9	114.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)